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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,310	04/07/2004	Sherman C. Creighton	F-8058 (02-679)	7450
34704 7590 06/14/2007 BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER CASAREGOLA, LOUIS J	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 06/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/820,310

Applicant(s)

CREIGHTON ET AL.

Examiner

Louis J. Casaregola

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-20 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

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***Claim Rejections - 35 USC 101 & 112***

Claims 10 and 11 are rejected under 35 USC § 101 as reciting subject matter which overlaps two different statutory categories, and/or under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claims 10 and 11 are directed to a method for engineering a swirler vane pack, but they depend from apparatus claim 1. Claims 10 and 11 are thus improper under 35 § USC 101 since they are neither process nor machine, but rather, overlap two different statutory categories. Furthermore, individual claims combining both method and apparatus are considered indefinite under 35 USC § 112, second paragraph; see MPEP 2173.05(p)(II).

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It is additionally emphasized that claims 10 and 11 are not bona fide product-by-process claims since swirler vanes having the same design would be physically identical regardless of what engineering concept was used to arrive at that design.

***Claim Rejections - 35 USC 112***

Claim 2 is rejected under 35 USC 112, second paragraph, as being indefinite for

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failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claim 2 recites that "spacing between adjacent ones of said vanes is essentially spanwise constant". It is not clear which dimension in the preferred embodiment actually corresponds to the recited "spacing".

### ***Claim Rejections - 35 USC 102***

Claims 1 and 3-6 are rejected under 35 USC 102(b) as being anticipated by any of Cheshire et al, Thibault et al, and Parker.

All features of the claimed vane pack are present in prior art swirler vane arrangements of the type disclosed by any of the cited references. Attention is called to the vaned swirler device in Cheshire's Figure 1; note the array of vanes 17 along with sleeve 12 for holding the vanes. The vanes each have a spanwise changing section in the form of a chord which decreases from an outer (first) vane end to an inner (second) vane end, and the second end chord appears to fall well within the claimed range of 25-75% of the first end chord.

Thibault and Parker show swirler vane arrangements essentially similar to Cheshire's; see vanes 106 in Thibault's Figure 3, and vanes 36 in Parker's Figure 4.

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Claims 7-9 are rejected under 35 USC 102(b) as being anticipated by Cheshire et al.

With regard to claims 7 and 8, note that Cheshire's Figure 3 shows a section of vanes 17 as symmetrical across a chord, and the figure further shows the vanes as having flat faces.

With respect to claim 9, note also that vanes 17 do not appear to be twisted.

#### ***Allowable Subject Matter***

Claims 12-20 are allowed.

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#### ***Additional References***

Gerendas et al is cited as disclosing a further example of a swirler vane configuration which exhibits a spanwise variation in chord; see Figure 2.

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L. J. Casaregola

571-272-4826 (M-F; 7:30-4:00)

571-273-8300 FAX

June 11, 2007

If repeated attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor, Anthony Stashick, can be reached at 571-272-4561.

Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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